THE PHYTOLOGIST.

No. XXXII. | JANUARY, MDCCCXLIV. | PRICE 1s.

ART. CLXXXIV. — *Notice of a Visit to Black Notley, Essex, the birth-place and residence of John Ray.* By JOSHUA CLARKE and G. S. GIBSON, Esqs.

IT was on a hazy morning in July that we started from Saffron Walden on a botanical excursion, undertaken chiefly with the view to visit the tomb of John Ray, and to explore the village which derives its interest and celebrity from having been the birth-place of that illustrious man, and his residence during a considerable portion of his life.

The first object of Natural History to be mentioned on the journey is, that at a short distance from the village of Sampford we observed the Cuscuta which has lately been so destructive to clover (Phytol. 753), committing great ravages in a field of that plant; and we have since been informed that it has destroyed about one fourth of the crop. There is no doubt of its having been introduced with foreign clover-seed, but whether it be a variety of C. Epithymum or a distinct species, does not appear to be fully ascertained. It is a plant of more vigorous growth, spreading itself in circular patches, from four to ten feet in diameter.

The village of Sampford is an excellent locality for Lilium Martagon, where it now appears to be truly wild, both in a hedge and wood in the neighbourhood. Seeing some fine ones in blossom in a cottage garden, we asked the owner where he procured them; and the reply given was that he dug them up from a hedge in the lane, where they grew plentifully. He further stated that they had been there ever since he was a boy, probably about forty years. Up this lane, which is bounded by high banks and old copse-like hedges, we gathered upwards of a dozen specimens in flower, and left as many remaining. Near the same village we likewise saw Ranunculus parviflorus, Petroselinum segetum, Scirpus sylvaticus, and other plants. Pursuing our journey, we noticed in the hedges near Dunmow, Ulmus major, whose reflexed branches, winged with corky excrescences, can scarcely fail to attract attention. On a common by this town we gathered Anagallis tenella, Sium inundatum, Veronica scutellata, Mentha Pulegium, Peplis Portula, Nardus stricta, Agrostis pumila, Festuca bromoides &c., and further on the road Œnanthe Phellandrium. In the centre of the pretty village of Saling stands a remarkably fine tree of Ulmus montana, var. β. *pendula*, whose elegant form and gracefully pendulous branches lead one to express a regret that more of this fine tree are not planted instead of the commoner and inferior ones. Doronicum plantagineum and Vinca minor grow near the village, and as we approached the town of Braintree, we gathered Dipsacus pilosus.

The village of Black-Notley is situated about two miles from Braintree; it is a small, scattered, purely Essex village; as we approached it, the occasional gleams of the sun foretold a fine day, and added beauty and freshness to the quiet scene. Although the village affords but one very poor inn, we sat down to a hearty breakfast, not prepared to quarrel with our provision or accommodation. This over, we started forth to see and hear all we could regarding the illustrious Ray. Washington Irving remarks that "Genius seems to delight in hatching her offspring in bye corners." Ray was an exemplification of this; he was born here in 1628, and is said to have been the son of a blacksmith, but of this we found no traditional evidence, neither could we learn where the original blacksmith's shop had stood; the inhabitants speak of him as a very wonderful man who knew everything, and had travelled all over the world.

The church is an old plain tiled building, with rather a picturesque wooden spire, and stands in a delightfully rural situation. The church-yard is a good-sized enclosure, planted with horse-chesnut and elm: in this retired spot, on the south side of the church, rest the mortal remains of the greatest of British naturalists. The tomb is neat and handsome, of a pyramidical form, from ten to twelve feet high, and bearing an elaborate and appropriate Latin inscription. This monument was erected by Compton, Bishop of London, one of Ray's cotemporaries, and about fifty years since was restored by Sir Thomas Gery Cullum, and is now in excellent preservation.

The house in which Ray is said to have lived, stands on a hill about half a mile from the church, and is now used as a farm-house, but the present inhabitants could give us no information, and seemed not at all aware that they were treading the same boards as were trodden by the great Ray, or looking on the same fields and trees as he once admired. Adjoining the meadow below the house is a garden, which still bears the name of "Ray's Orchard." It is now held by an octogenarian market-gardener, who appeared to possess much of the ancient simple but genuine hospitality, and who was much pleased to point out to us an old pear-tree, which tradition says was planted by Ray; its hollow trunk bears evident marks of great age, but the tree still retains considerable vigour, and yields an abundant crop.

As the day proved delightfully fine, we rambled about to notice the Natural History of the village; and although we did not find anything very rare, yet every object seemed to derive additional interest from its locality. A quiet little stream glides noiselessly through the meadows below the church, and on the opposite side of it is a picturesque wood. Near the former we observed the willow-wren (*Sylvia Trochilus*), the lesser whitethroat (*S. Curruca*), the blackcap (*S. atricapilla*) and the nightingale (*S. Luscinia*). The banks of the stream abound with several species of Libellula. In the meadows and adjoining wood we saw the speckled wood butterfly (*Hipparchia Ægeria*), Argynnis Paphia, Vanessa Polychloros, V. Iö, Polyommatus Alexis, Pamphila sylvanus, &c.

Among the plants noticed were Ranunculus arvensis, Reseda Luteola, Scleranthus annuus, Cerastium aquaticum, Malva moschata, Euonymus europæus, Genista tinctoria, Trifolium ochroleucum, Pyrus communis, Sison Amomum, Torilis infesta, Viburnum Opulus, Petasites vulgaris, Pyrethrum Parthenium, Campanula hybrida, Lycopus europæus, Mentha sylvestris, Chenopodium polyspermum, Tamus communis, Carex pendula, Milium effusum, Melica uniflora, Festuca loliacea, Polystichum aculeatum, &c.

After having finished our ramble, and having partaken of such provision as the inn afforded, we set out on our return home, thus concluding a very agreeable and interesting excursion to a spot, which must be deemed by every naturalist to possess something of a sacred character. And although the labours of Ray are little known in his native village, it is pleasing to reflect that by the public generally his works are increasingly valued.

We cannot perhaps better conclude this notice of our excursion than with the following brief sketch of the life and works of John Ray.

Ray was born in 1628; and although his father was in so low a station of life, he contrived to give him a liberal education. He was sent when young to the grammar-school at Braintree, and afterwards entered Trinity College, Cambridge, where, in 1649, he obtained a fellowship, and took the degree of Master of Arts. In 1651 he was appointed Greek Lecturer, and in 1667 was elected Member of the Royal Society. The work by which he is best known to the public, is his 'Wisdom of God in Creation,' an original and extraordinary work in its day, and one replete with philosophical detail, which breathes in no ordinary degree the spirit of Christian piety; and it is gratifying to see how, as knowledge has increased, his ideas of Natural Theology, in connexion with Natural History, have been carried out, first by Derham in 1720, then by Paley, and in the present day by the Bridgwater Treatises, MacCulloch, and others.

His works on Botany are numerous and extensive. He was unquestionably the first who reduced that science to system, and thus paved the way for the immortal Swede; he found Nature a trackless wilderness, but his genius and perseverance reduced it to order, method, and systematic arrangement. Linnæus truly characterises his 'Historia Plantarum,' as "opus immensi laboris." Sir J. E. Smith observes,—"Of all the systematical and practical Floras of any country, Ray's 'Synopsis' is the most perfect that has ever come under our observation. He examined every plant recorded in this work, and even gathered most of them himself. He investigated their synonymes with consummate accuracy, and if the clearness and precision of other authors had equalled his, he would scarcely have committed an error." His publications on the various departments of Zoology have established his high reputation as a philosophical naturalist. His 'History of Insects,' Mr. Haworth observes, is a masterpiece of clearness and precision. He was an intimate friend of Willughby, with whom he travelled through the Low Countries, Germany, Italy, &c., and subsequently assisted him to arrange his collections in all the various branches of Natural History. After the premature death of his friend, Ray acted as tutor to his children, with whom he resided for some time. But this excellent and admirable man appears to have spent many of his last years in his secluded native village, retaining his intellect to the last, and dying in 1705, at the age of seventy-seven.

Ray was a man whose whole life is to be admired. Even amid the ardour with which he prosecuted his scientific studies, he appears always to have kept in view this noble object, the advancement of the glory of God, and the good of his fellow-creatures.

The second centenary of his birth was celebrated in London in 1828, by a public dinner, at which were present many of the most celebrated naturalists and leading characters of the day, the President of the Royal Society occupying the chair. G. S. Gibson.

Saffron Walden, October, 1843.

ART. CLXXXV.—*On the Varieties of Betula alba of Linnæus, described as distinct Species by some authors.** By HEWETT C. WATSON, Esq., F.L.S.

THERE is, perhaps, in the present day, scarcely any circumstance more calculated to impede the progress of botanical science, and to throw difficulties in the path of the younger botanist, than the growing fondness for changing names, and for inventing species in books which have really no distinct existence in nature. I believe that it would be no exaggeration of the number of these spurious species now enumerated in the descriptive Floras of Britain, if I were to estimate them at about two hundred. But in the present paper my remarks will be restricted to those imaginary species which have been carved out of our common birch, the Betula alba of Linnæus.

When the last volume of Smith's 'English Flora' was published, in the year 1828, this tree was described as a single species under the name of Betula alba. But the author of that still valuable work did slightly mention a pendulous variety, which had been published in Germany, as a distinct species, under the name of Betula pendula. And in the various editions of the 'British Flora,' we find the authority of Sir W. J. Hooker added to that of Sir J. E. Smith; since the latter work still describes the birch-tree as one species only, though stating, in the last edition (1842), that the name of B. glutinosa appeared in the 'Edinburgh Catalogue,' as if belonging to a distinct species.

In Lindley's 'Synopsis of the British Flora,' which followed shortly upon the completion of the 'English Flora,' we find the pendulous form described as a distinct species, under the name of Betula pendula, *Roth*.

In the second edition of the Catalogue published by the Botanical Society of Edinburgh, in 1841, the views of Dr. Lindley are not recognized; his species, Betula pendula, being enumerated only as a variety of B. alba. To compensate this reduction of one pretended species from the number, another was found, and introduced into the Catalogue under the name of B. glutinosa, *Wallr*.

In that capital work, the recently published 'Manual of British Botany,' by Mr. C. C. Babington, Dr. Lindley's B. pendula is at last utterly cashiered, being not even given as a variety. But to make up for the omission of this variety (allowed by the same author, two years before, in the 'Edinburgh Catalogue') we now find in the 'Manual' another variety, not of B. alba, but of B. glutinosa, introduced under the name of "pubescens."

---

* Read before the Botanical Society of London, November 3, 1843; communicated by the author.

Thus, taking the Floras together, we have three species of birch-tree — B. alba, B. pendula and B. glutinosa; the last of these three being subdivided into the typical (usually glabrous) form and the variety pubescens. In this medley of contradictory views, I hold that Smith and Hooker are correct, in describing only one species; and that Lindley's B. pendula, and Babington's B. glutinosa, are merely forms of that one species, the Betula alba of Linnæus.

Dr. Lindley's name stands very high among botanists, and deservedly so, but his botanical reputation has never been considered to rest on any skill in the discrimination and determination of species; and since both Hooker and Babington have thought fit to reject B. pendula, we may safely pass it over at present, as a mere book-species.

Betula glutinosa and its variety pubescens, still remain open for investigation. In the Manual, we are told that B. alba is readily distinguished from B. glutinosa "by its leaves, but more certainly by its fruit." The difference between the leaves of the two is thus stated:—

B. *alba.*—" Leaves rhomboid-triangular doubly serrate acuminate."
B. *glutinosa.*—" Leaves cordate-ovate unequally serrate acute."

This reads very satisfactory on paper, and may appear equally so in small specimens for the herbarium. Unfortunately, however, for this ready distinction of the species, while old trees, with pendulous branches, are clothed with leaves exactly corresponding with this description of the leaves of Betula alba, the seedling plants which spring up underneath them, produce cordate and pubescent leaves. The old trees are thus B. alba, while their young progeny are B. glutinosa variety pubescens. Moreover, I have repeatedly seen, on the same single tree, that the upper and drooping branches bore the rhomboid leaves of B. alba, while the lower ascending or nearly horizontal branches were clothed with the cordate-ovate leaves said to be characteristic of B. glutinosa. And still, on the same trees, I have occasionally observed completely cordate and pubescent leaves, like those of the seedling plants, produced on suckers from the root, on soft shoots near the base of the old trunk, on late autumnal branchlets, and on those fast-growing shoots which push out where branches have been lopped.

The serratures of the leaves are equally variable as their forms, and doubly serrate leaves may be seen growing on the same tree with unequally serrate leaves. And I fear that the fruit is not a whit more constant to the characters given for these supposed species. In the Manual, we have the characters of the fruit described thus: —

B. *alba.*—"Fruit obovate-elliptical shorter than the rounded membranous margin."
B. *glutinosa.*—"Fruit broadly obovate as long as the rounded membranous margin."

The difference of form between "obovate-elliptical" and "broadly obovate" is not great; and I have seen still wider differences in form, even on the very same tree; and such differences may readily be found in the fruit of trees whose leaves are undistinguishable in their form and serratures. I have also seen the fruit of B. glutinosa (namely, of trees with cordate-ovate leaves) shorter than its membranous margin, and that of B. alba (namely, of trees with rhomboid leaves), equalling or longer than the margin.

In conclusion, therefore, I boldly assert, in contradiction to the belief of Mr. Babington, that Betula alba and B. glutinosa are not only one single species, but are often undistinguishable as varieties, since both forms may appear on different branches of the same single tree.

HEWETT C. WATSON.

Thames Ditton, November, 1843.

ART. CLXXXVI—*A Few Days in Suffolk.* By W. L. NOTCUTT, Esq.

HAVING read with much interest the various details of botanical excursions which have from time to time appeared in 'The Phytologist,' it has occurred to me that a few particulars respecting the results of a short visit which I paid to Ipswich and the neighbourhood during a part of the month of June last, might not be unacceptable, especially as the floral riches of the county of Suffolk are by no means despicable. I reached Ipswich on the 13th of June, and on the following day wended my way by the side of the Gipping, with the view of ascertaining what it might afford in the way of Botany. The first plants worth notice which caught my eye were Thalictrum flavum, Lythrum Salicaria and Angelica sylvestris, growing most luxuriantly by the sides of the neighbouring ditches, but none of them as yet in blossom. A little further on were a few specimens of Hippuris vulgaris growing near the side of the river, while, nearer the centre of the stream, some fine plants of Nuphar lutea were displaying their beautiful flowers. On crossing a grass-field, a broad stagnant ditch afforded me Hydrocharis Morsus-ranæ, Lemna polyrhiza (the purple underside of which contrasts beautifully with the pale green of the upper surface), Hottonia palustris and Nuphar lutea again. In returning to Ipswich but little worthy of note offered. The sides of the ditches were richly bedecked with the common, though not on that account the less beautiful, Myosotis palustris, while Anthriscus vulgaris and Silybum Marianum were plentiful by road-sides. On a wall in the London road was formerly a habitat (I believe the only one in the neighbourhood) for Geranium lucidum; but though anxiously looked for, not a single specimen was this year to be found.

On the 15th the beautiful morning tempted me to direct my steps to Freston tower, a picturesque spot about four miles down the Orwell. At Bowen-bridge, two miles from Ipswich, Beta maritima and Statice Limonium were growing sparingly. A little on the hedge-banks beyond the Ostrich, the rare Turritis glabra was growing in moderate quantity: this is, I believe, its only locality near Ipswich. On the opposite side of the road was plenty of Festuca bromoides, while at a little distance, the salt marsh at the side of the river was carpeted with a rich display of the beautiful blossoms of Armeria maritima. On ascending the hill leading to the tower a fine specimen or two of Potentilla [argentea ?] presented themselves, while in the neighbouring corn-fields the beautiful though evanescent blossoms of Erodium cicutarium, which was growing in great luxuriance and abundance, could not fail to strike the eye : I had also the pleasure of gathering on this spot some good specimens of Thlaspi arvense. I remember hearing an experienced botanist remark, with regard to this plant, that he had never found it for two successive years in the same place; even when he had met with it in some abundance, it was probably not to be seen in the same place again for some time afterwards. I have had but two opportunities of watching the plant, and so far as my observation goes, the above remark holds good. If it is correct, it is a curious fact; what is the cause of it ? In a meadow below the tower I have formerly gathered Orchis Morio in plenty; and in Freston wood, Lysimachia nemorum and the two Chrysosplenia used to be found, but I was too late for them this year.

"Portman's walks" and its neighbourhood, close to Ipswich, afford several interesting plants. In the ditches were fine specimens of Butomus umbellatus, which is a rare plant about Ipswich, though it grows in several spots. In the farther part of the walks Thlaspi arvense used to grow, and here I have formerly gathered the finest specimens I ever saw; this year not a vestige of it was to be seen. The same may be said of Leonurus Cardiaca and Delphinium Consolida, the latter of which, I recollect, ten or eleven years ago, used to grow in splendid profusion at the top of the hedge-banks. Saponaria officinalis still grows here in plenty, but has double flowers. Turning from the walks towards the salt river, Samolus Valerandi makes its appearance in the ditches, while by their sides grows Thalictrum flavum in abundance. A little further on is Lepidium latifolium in profusion by the side of the "Shoulder-of-mutton pond." Returning to Stoke bridge, I looked along the new embankment formed by the side of the wet dock, thinking that perhaps among the newly-exposed gravel, something of interest might have sprung up, and was much pleased in gathering Lepidium ruderale, a plant I had never met with before within twelve miles of Ipswich.

On the 17th a stroll to the race-ground and the decoy-ponds afforded me Arenaria rubra, Anthemis arvensis, Aira caryophyllea, Carex ovalis, Juncus squarrosus, Ornithopus perpusillus and Festuca myurus; had time permitted, I have no doubt that many more interesting plants would have rewarded my researches.

On the 19th I left Ipswich for Felixtow, a small village on the Suffolk coast, which presents many interesting features to the botanist. It is about twelve miles from Ipswich, and the neighbourhood will amply repay an industrious search. I spent part of two or three days in investigating that part of the coast which lies between Felixtow and Landguard fort, at the entrance of the Orwell, and just opposite Harwich. The first plant which attracts attention is Ammophila arenaria, which abounds on the sandy ground in front of the hotel, and amongst it is Schlerochloa maritima, and fine specimens of Convolvulus Soldanella in profusion. About a mile from Felixtow, Festuca uniglumis and Carex arenaria appear in the sand; while on the sandy plain at the back of the beach, Phleum arenarium abounds, and associated with it is Valerianella dentata, var. *β. mixta*, though but sparingly. Close at hand is a Martello tower, and here we begin to meet with Trifolium suffocatum, Medicago minima, Geranium pusillum, Trifolium scabrum, and the beautiful white-flowered variety of Erodium cicutarium. From this place to Landguard fort, the two former plants are so abundant, that many parts of the green sward are composed of scarcely anything else: and should they be desiderata with any of your correspondents, I shall be happy, if my life is spared, to supply any of them with specimens next season, if they will intimate their wishes to me in time. On the right of the town is a salt marsh, nearly covered with Halimus portulacoides, and in front lies Landguard fort. On the sandy point to the left of the fort we meet with Euphorbia Paralias, Glaucium luteum, Adenarium peploides, Silene maritima and Eryngium maritimum; and Landguard fort itself is one of the reputed stations for Tamarix anglica, although I must confess that there is no appearance of its being truly wild. It is very abundant, for there are whole hedges of it on the grounds of the fort, and within the fortifications there are some very fine and aged tamarisk trees, the branches of which are supported by props. One of the largest trees I measured, and found its circumference to be six feet three inches. On that part of the coast which lies between Felixtow and Bawdsey-ferry, at the entrance of the river Deben, I was surprised to find that the encroachments of the sea had swept away most of the plants which I used to find there, such as Salsola Kali, Cakile maritima, Atriplex laciniata, &c. Near Sir S. Fludyer's were some fine plants of Koniga maritima, which, however, had doubtless escaped from the garden. Here likewise are abundance of tamarisk trees, but all are planted, and have been raised from those at Landguard fort. On the sandy common forming the corner of the land at Bawdsey-ferry, Medicago minima, Trifolium suffocatum and T. scabrum are again plentiful; and, growing among them, the pretty Sedum anglicum is frequent. Within the enclosure of a sunken bastion, Salvia verbenaca and Trifolium ornithopodioides were growing, as was Carduus tenuiflorus on the common. On the opposite side of the Deben we gathered Eryngium maritimum, Kœleria cristata, Salsola Kali, Atriplex laciniata and Carex divisa. Returning to Felixtow by the fields, I had an active search for Agrostis Spica-venti, which I formerly found in a corn-field close to the terrace, but I was much disappointed in not meeting with a single specimen. However, I was somewhat rewarded for the vexation by finding in a hedge not far off, some most luxuriant plants of Fumaria capreolata, the cream-coloured blossoms of which, with their dark purple tips, were remarkably attractive and beautiful. My paper has already extended to such a length, that I must only remark that a walk to Walton-ferry afforded me Lathyrus Nissolia in profusion, Geranium pyrenaicum, Hyoscyamus niger, Ranunculus sceleratus and Vicia sativa, var. *β. angustifolia.* Thus ended my Suffolk trip, and I should be very happy if the detail of my researches should afford your readers a tithe of the pleasure in the perusal which the recollections and associations it brings to mind while writing it give to me. W. L. NOTCUTT.

Fareham, November 1, 1843.

Art. CLXXXVII. — *Rarer Plants observed in the neighbourhood of Teignmouth, Devon.* By Robert C. R. Jordan, Esq.

Lympstone, Devon, September 7, 1843.

Sir,

I have sent you a list of some of the rarer plants found in the neighbourhood of Teignmouth, Devonshire, the farthest range from that place being about sixteen miles. They are classed according to the Linnæan system, which has always appeared to me the best adapted for the arrangement of British plants at least. Hoping the list may prove acceptable to some of your readers, I remain,

Yours very truly,
Robert C. R. Jordan.

To the Editor of 'The Phytologist.'

Salicornia herbacea. Salt marshes.
Zostera marina. Teignmouth beach after storms.
Ligustrum vulgare. Teignmouth cliffs &c.
Veronica Anagallis. Banks of the Teign.
Pinguicula lusitanica. Marshes near Haldon.
Salvia Verbenaca. Cliffs, Teignmouth.
Valeriana rubra. Old walls.
——— ——— with white flowers. Dawlish cliffs.
——— *dioica.* Near Newton.
Iris fœtidissima. Common.
Rubia peregrina. Hedges at Teignmouth, common.
Plantago Coronopus. Teignmouth beach and on Haldon.
——— *maritima.* Dawlish warren.
Anchusa sempervirens. Dawlish, hardly wild.
Anagallis tenella. Marshes, Haldon.
Convolvulus Soldanella. Dawlish warren.
Campanula rotundifolia. Near Torquay, rare.
——— *hederacea.* Marshes on Dartmoor, Spitchweek, &c.
Viola hirta and *odorata.* Woods &c.
—— *palustris.* Marshes on Haldon.
Hyoscyamus niger. Dawlish warren.
Vinca minor. Hedges &c.
Gentiana campestris. Babbacombe cliffs.
Eryngium maritimum. Beach at Teignmouth &c.
Daucus maritima and *Crithmum maritimum.* Cliffs, Teignmouth.
Statice Armeria and *Limonium.* Salt marshes.
——— *rariflora.* Near Exmouth.
Galanthus nivalis. Banks of the Teign.
Narcissus biflorus. Near Dawlish.
——— *Pseudo-narcissus.* Ashburton.
Allium ursinum. Near Newton.
Scilla autumnalis. Babbacombe cliffs.
Narthecium ossifragum. Marshes, Haldon.
Saponaria officinalis. Near Dawlish.
Dianthus Armeria. Haldon &c.
Silene anglica. Near Dawlish warren.
—— *maritima.* Cliffs at Teignmouth.
Arenaria peploides. Teignmouth beach.
Cotyledon Umbilicus. Common.
Cerastium aquaticum. Near Newton.
Spiræa Filipendula. Babbacombe cliffs.
Rubus Idæus. Near Ashburton.
Papaver hybridum. Near Dawlish.
Glaucium luteum. Cliffs, Teignmouth.
Helianthemum polifolium. Babbacombe cliffs.
Delphinium Consolida. Teignmouth, rare
Aquilegia vulgaris. Woods.
Helleborus viridis. Near Newton.

Lamium album. Ashburton &c., not found in the immediate neighbourhood of Teignmouth.
Melittis Melissophyllum. Woods &c.
Scutellaria galericulata. Exmouth.
Rhinanthus Crista-galli. Haldon.
——— *major* [?]. Woods &c.
Antirrhinum Orontium. Sandy fields.
Alyssum maritimum. Exmouth, hardly wild.
Teesdalia nudicaulis. Haldon &c.
Cochlearia officinalis. Banks of the Teign.
——— *danica.* Beach, Teignmouth.
——— *Armoracia.* Dawlish.
Cakile maritima.
Cheiranthus Cheiri. Dawlish cliffs.
Brassica oleracea. Babbacombe cliffs.
Erodium cicutarium, with white flowers. Den, Teignmouth &c.
——— *moschatum.* Exmouth.
Geranium lucidum & *columbinum.* Common near Teignmouth.
Lavatera arborea.
Fumaria lutea. Old walls near Newton.
Lathyrus Nissolia. About three miles from Teignmouth, on the Newton road.
——— *sylvestris.* Cliffs, Teignmouth.
——— *latifolius.* Dawlish warren, but hardly wild.
Vicia sepium, with white flowers. Bradley woods, near Newton.
——— *bithynica.* Cliffs, Teignmouth.
Hedysarum Onobrychis. Road between Teignmouth and Torquay.
Trifolium subterraneum.
Lotus angustissimus. Near Bishopsteignton.
Medicago maculata.
Hypericum Androsæmum.
——— *calycinum.* Near Ashburton.
——— *quadrangulum, perforatum, humifusum, montanum, pulchrum*, and *elodes.*
Tragopogon pratense. Near Bishopsteignton.
Picris echioides. Cliffs, Teignmouth.
——— *hieracioides.* Near Newton.
Serratula tinctoria. Woods near Ashburton.
Artemisia campestris. Banks of the Teign.
——— *maritima.* Teignmouth beach.
——— *Absinthium.*
Chrysocoma Linosyris. Berryhead.
Aster Tripolium. Salt marshes; the variety with the outer or purple florets wanting occurs near Exmouth.
Pyrethrum maritimum. Salt marshes.
Anthemis nobilis. Haldon &c.
Achillæa Ptarmica. Banks of the Teign.
Centaurea nigra, var. *radiata.* Common.
Orchis bifolia. Woods.
——— *pyramidalis, mascula, latifolia* and *maculata.*
Ophrys apifera. Babbacombe cliffs.
Neottia spiralis. Ditto.
Myrica Gale. Near Asburton.
Tamus communis.
Buxus sempervirens. Scarcely wild.

ART. CLXXXVIII.—*Notes of a Botanical Excursion in France, in the Summer of* 1843. By JOSEPH WOODS, Esq., F.L.S.

(Continued from page 801).

On the 19th I went to Fontainebleau, on what turned out to be a thoroughly wet day. I left the diligence at Chailly, following the directions given to me by M. de Jussieu. The landlady there charged me four francs for my breakfast, under the pretence that she had given me a bottle of old Burgundy. In general I find the people very honest and moderate in their charges in the French villages and small towns—this was an exception.

I left the high road on the right, and after crossing some corn-fields and a small wood, followed the direction of a sharp brow in the forest where the sandstone is much quarried, to the *Belle Croix*, sometimes dipping into the valley beneath, to see if any plants were to be found differing from those above. The crest is rocky, the valley, or at least the lower part of the slope, is of loose sand, but the best Botany is on the crest. The position of some of the plants the most peculiar to Fontainebleau, is very curious. The forest exhibits a remarkable development of a tertiary sandstone, of which the harder parts form a rocky crest to the hills. On the top of these rocks are hollows often containing water. These pools do not perhaps occupy a fourth part of the surface which drains into them, but it is a surface of rock either naked, or very slightly covered with a dark heathy soil, and there is no drainage from the general surface of the hill. I think the best pools, some of them perhaps hardly a yard square, are where the supplying surface has not sufficient soil to support anything but a few mosses and lichens, or where a great part of it is naked. It will easily be conceived that in such circumstances the water, in fine weather, becomes very warm. In summer a great deal of this dries up, but there still remain deep hollows, whose area, instead of occupying a fourth, is reduced to a twentieth of the receiving surface, and here the plants find a refuge. In these little pools we find great abundance of Bulliarda Vaillantii and Ranunculus nodiflorus, two plants which are hardly found, or are extremely rare elsewhere. Delphinium Consolida, which is common in the corn through great part of France, was coming into flower, and Medicago apiculata had sufficiently formed its very characteristic legumes. Veronica spicata begins to exhibit its spikes; V. verna is pretty well over. Festuca uniglumis is abundant in the loose sandy parts, Cynanchum Vincetoxicum everywhere; and so is Asperula tinctoria in this part of the forest, although it is a plant generally rare. Fedia carinata and olitoria have made way for F. auricula, which is now the predominant species. The other plants were: —

Trifolium rubens
Genista sagittalis
Orchis ustulata, here and [there
Phyteuma orbiculare
Campanula persicifolia
Geranium sanguineum
Globularia vulgaris
Epipactis Nidus-avis
Phalangium ramosum
Sedum villosum
Tillæa muscosa
Helianthemum umbellatum out of flower
Orobus niger
Vicia lutea
Trifolium strictum
Galium læve
Inula hirta
Gypsophila muralis
Lychnis viscaria
Phalangium Liliago
Ranunculus Chærophyllus
Thesium intermedium ?
Dianthus carthusianorum

In the latter part of my walk I met with Sesleria cærulea.—

This plant is abundant on the limestones of the North of England, but does not occur, so far as I know, on those of South Wales or of the West of England. It is not met with on our chalk hills, but is abundant on those about Rouen. At Dreux, still on the chalk hills, it is scarce. The station at Fontainebleau belongs, I think, to the calcareous beds overlying the sandstone. The '*Flore du centre de la France*,' by A. Boreau, gives habitats still more to the south.

The 20th was fair, though cloudy; but the rain of yesterday, followed by a wet night, had left both grass and woods full of water. Still following the advice of M. de Jussieu, I set out through the gardens of the chateau to reach the Mail de Henri Quatre. I went up a ridge of barren hills on the left, which I erroneously supposed to be connected with the *Mail*, but found nothing on them. Afterwards, not understanding what was meant by the word *Mail*, I crossed it without knowing, still supposing the term to belong to a crest of rocks beyond me. However, I gathered in crossing it most of the plants which are said to be found on the Mail, viz., Ononis Columnæ, Arenaria triflora (a variety of A. grandiflora according to Duby), Helianthemum apenninum and Fumana (or procumbens), and Teucrium montanum.

On leaving the Mail and crossing to the opposite crest, I found there abundance of those small *mares* or pools, but the only rare plant in them was Ranunculus tripartitus. Some tufts of this species growing quite out of the water, although this was high from the late rains, producing hardly any but the capillary leaves, and completely covered with flowers, were very beautiful. On a later occasion, the 5th of August, I met with abundance of Elatine hexandra in these pools. Thence I descended into a large barren plain — *Plaine du Chêne Brulé* — which is crossed by the road to Lyon, where I added Ranunculus gramineus and Scorzonera austriaca to my collections, but unfortunately both completely out of flower, and almost losing their seeds. Here also grow Trifolium montanum, Alyssum montanum, Epilobium angustifolium, Lactuca perennis and Teucrium montanum. Other plants in this part, which are generally diffused in the forest, are the following.

Trinia glaberrima
Statice plantaginea
Rubus plicatus
Veronica Teucrium
Genista pilosa
Viola canina, var.
Arundo Epigejos
Helianthemum guttatum
Plantago arenaria
Linum tenuifolium
Phalangium Liliago
Silene Otites, an eastern plant with us
Arenaria setacea

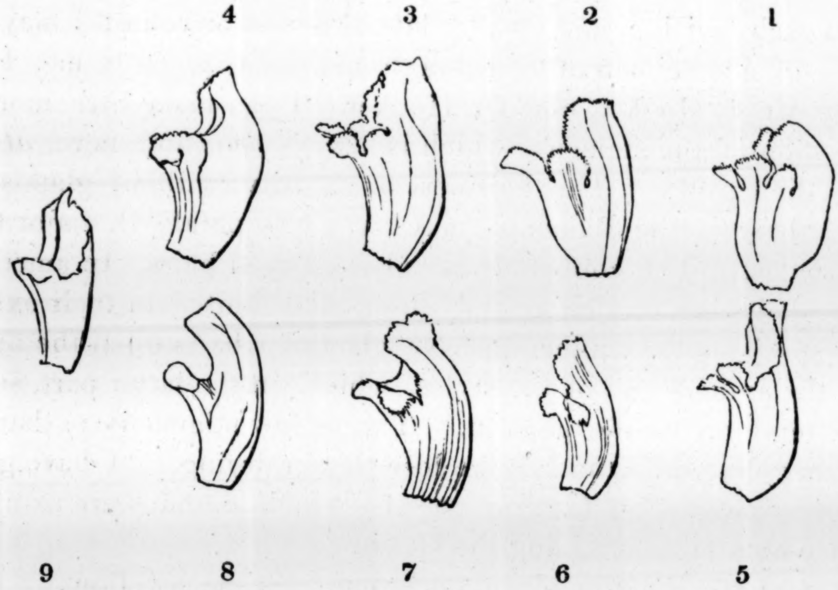
The Orobanches were very abundant and in good condition, but I was not able to do much in determining the species. Koch, and after him Babington, depend much upon the nerves of the sepals, but of the species described by the former writer, as having only one or two nerves, I know nothing; and all our difficulties lie with the many-nerved species. Babington indeed gives to O. rubra only a single nerve, but he cites, though with a mark of doubt, Koch's O. epithymum; and Koch cites, under = O. epithymum, the figure of O. rubra in 'English Botany,' but with the addition—*pessima*, in which everybody will agree with him. As far, however, as it is possible to judge from such a figure, I should say that O. rubra and O. epithymum cannot be the same. In the O. epithymum of Fontainebleau, the nervature of the calyx is the same as in its allied species, that is, a distinct nerve to each division, and smaller lateral nerves or veins: I may say the same of a specimen of O. rubra from Staffa, given to me, I believe, by Mr. J. Hooker, now Dr. Hooker. I can make little more of the insertion of the stamens, which is always *near* and never *at* the base of the corolla. The hairiness or villosity (without glands) at the inner base of the filaments, may serve to separate O. major from other species, and O. concolor has only scattered hairs. In amethystea these hairs are very short and close, and limited in their extent. All the species seem subject to have glandular hairs upon the upper part of the anthers and of the styles, which, in the latter part, sometimes extend on to the germen. The yellow stigma is perhaps of importance, but unfortunately we lose this in drying. I have given on the next page a few forms of corolla, which perhaps are as useful as most points in determining the species.

1. O. *major*. Fontainebleau, on broom. Stigmas yellow.
2. O. *cruenta*. Dreux, on Hippocrepis comosa.
3. O. *caryophyllea*. Fontainebleau. Flowers nearly pink: stigmas purple.
4. O. *caryophyllea?* Orleans, growing among grass and bushes. It had the clove smell, but this is occasionally met with in several species.
5. O. *epithymum*. Fontainebleau, on Thymus Serpyllum. Stigmas purple. I could always readily distinguish this by the strong venation of the petals, but the veins were marked in colour rather than in substance, and have disappeared in drying. The upper lip was sometimes cloven, sometimes entire, and even now and then trifid.
6. O. *minor*. From near Guildford.
7. O. *amethystea*. Blois, on Eryngium campestre. Stigmas purple.

A beautiful plant, easily known by its dense spikes and the long points of its bracteas and calyces.

8. O. *Teucrii*. Fontainebleau, on Teucrium montanum and Chamædrys. Snuff-coloured, nearly veinless. The insertion of the stamens is higher than in O. epithymum, and the lips of the corolla are more separate. The botanists of Paris seem disposed to unite these species.

9. O. *concolor*. Fontainebleau. Corolla and stigmas yellow. I saw only two specimens, and could not ascertain to what plant they were attached. They agreed perfectly with Boreau's description,—'Flore du Centre de la France,' p. 344.



1. Orobanche major. 2. O. cruenta. 3. O. caryophyllea. 4. O. caryophyllea? 5. O. epithymum
6. O. minor. 7. O. amethystea. 8. O. Teucrii. 9. O. concolor.

From this plain I again ascended a hill on the right of the road to Reclose, where I found abundance of Coronilla coronata and Linum tenuifolium: and passing that road and the hollow in which it runs, ascended the *Rocher des Putaines*, now more delicately called the *Rocher des Demoiselles*, on the top of which again are some *mares*, which were not productive. Among these rocks, and in other similar places, I noticed Pyrus Aria, but did not fall in with any trees of P. latifolia, which is said to occur in the forest, but which, however, from specimens in the French herbarium of the Jardin des Plantes, appears to be the same as P. hybrida of the 'Flora Britannica,' 534.

On the 21st I set out on the road to Melun, and turning to the right examined a detached ridge, which, as usual where there are no *mares* was unproductive; and then descended towards the river. The lower strata seem here to be chalky, and the Orchideæ were abundant, chiefly about and beyond a little pool, where a by-road turns up from the river towards Samois. They were Epipactis rubra in great beauty, E. atropurpurea, Ophrys arachnites, O. apifera, Listera ovata, Aceras anthropophora and Orchis pyramidalis, all growing together and abundant. On a little hill descending from this pool, the banks were covered with Equisetum hyemale.

I did not find Euphorbia Lathyris, which is said to grow at Valvins. In my way back I met with Althæa hirsuta. Afterwards I climbed up a sandy ridge, the *point de vue* of Queen Amelia, and a very beautiful one it is, commanding a variety of rock and wood, of barren slopes and of the cultivated valley beneath. The other more common plants of the walk were: —

Monotropa Hypopitys
Poa compressa
Festuca uniglumis
Rubus affinis
Linum tenuifolium
Vicia lutea
Ajuga Chamæpitys
Crepis tectorum
Astragalus glycyphyllos
Gentiana cruciata, not in fl.
Sedum Cepæa
Ornithogalum pyrenaicum
Campanula persicifolia
Orobanche epithymum
Plantago arenaria

These were the three walks at Fontainebleau recommended by M. de Jussieu, except that, omitting my earlier aberrations, I ought to have returned, after finding the Orchises, to the new bridge at La Madelaine, and crossed the Seine to the *Bois de Champagne*. There is, however, a fourth walk to be made, which is very interesting: this is to Franchard, which I visited on the 22nd. The multitude of rocks in this direction is very great, and they are so like each other, and so broken and irregular, that it is a perfect labyrinth, from which it is difficult for a person unacquainted with the forest to extricate himself. The directions, which are very numerous, often serve to increase the perplexity. One finds, on coming into a beaten track, a post, on which is written, "Route allant à Fontainebleau," but nothing to mark in which direction Fontainebleau lies. It is true that the post, in such a case, is usually put on that side of the cross road which is nearest the place specified, but it is not always so, and a person trusting to this rule might be sometimes wofully deceived. Then we have "Route allant à la Route rond," which "route rond" forms a circle of considerable diameter, and one part might lie just in our way, and another very much out of it. The best Botany on the road is, in general, not among the rocks, but on some dry and barren banks where the sandstone seems to be capped with a calcareous deposit. Here grow: —

Trinia glaberrima
Teucrium montanum
Ononis Columnæ
Inula hirta
Hypochæris maculata
Epipactis rubra
Euphorbia Esula
Arenaria setacea
Helianthemum apenninum
H. Fumana

About Franchard are numerous *mares*, as usual upon the top of the hill. In one of these, beyond the *Rocher qui pleure*, I met with an abundance of Bulliarda: Ranunculus nodiflorus and Juncus pygmæus also occur, and in the same neighbourhood likewise grows Elatine hexandra. On a former occasion I recollect to have observed Pilularia. In this part also, in the largest *mare*, and at a very short distance from Franchard, Airopsis agrostidea is found, but I was too early to hope for it at this time, and on a later occasion (August 4th) I was equally unsuccessful. The *Rocher qui pleure* is a rock hollowed out beneath, from which a few drops of water continually proceed for the greater part of the year. It is not easy to determine whence this water proceeds, as there seems but little extent at top from which it could receive supplies, and the small pools which existed when I was there, would be dried up in a few days of fine weather. Opposite to this, on some rocks which are perhaps kept moist by some infiltration from the great *mare*, is Asplenium lanceolatum.

I was told, on what seemed competent authority, that the voiture (these small-stage carriages are not called diligences) set out for Malesherbes at 5, at half-past 5 and at 6. We started at ten minutes before 6, (no proof that 6 was not the appointed hour), and reached Malesherbes at 9. and I found myself very comfortable at a little inn called l'Etoile, at the entrance of the town.

(To be continued.)

Art. CLXXXIX.—*Rarer Plants observed near Coggeshall, Essex.* By Jabez M. Gibson, Esq.

The following is a list of some of the more uncommon plants growing in the neighbourhood of Pattiswick, observed by myself in the course of the present summer.

If any of your readers should happen to take a botanical stroll into this neighbourhood, I should feel great pleasure in pointing out the localities of any of these plants, more particularly than can be described in a hasty list like the present; or of affording any information which lies in my power.

Vicia Bithynica. Hedge-row of a field called Blackwater field, near the hamlet of that name, plentiful.

Dipsacus pilosus. The Water-lane, abundantly.

Geranium columbinum. Hedge-banks in several places.

——— *pyrenaicum*. Frequent by the road-side between Braintree and Coggeshall.

Lathyrus Nissolia. Dry hedge-banks, not unfrequent.

Epipactis purpurata. Three plants found in the west corner of Monks' wood.

Galium tricorne. Gravelly hedge-banks.

Linaria spuria and minor. Corn-fields, frequent.

Gnaphalium sylvaticum. Old gravel-pit near Blackwater.

Iberis amara. Corn-fields near Pattiswick church.

Typha angustifolia. Blackwater river.

Papaver Argemone and dubium. Corn-fields, not unfrequent.

Dianthus Armeria. Road-sides, not unfrequent.

Paris quadrifolia. Abundant in most of the neighbouring woods.

Convallaria majalis. Plentiful in Monks' and Nuns' woods.

Myosurus minimus. Corn-fields, frequent.

Vinca major & minor. Woods and hedges

Erysimum cheiranthoides. Corn-fields, not unfrequent.

Ribes nigrum. Banks of Blackwater river.

Hottonia palustris. Common in ponds in Monks' wood.

Cardamine amara. Small rivulets and ditches, frequent.

Rubus Idæus. Gravel-pit near Blackwater

Scirpus sylvaticus. Banks of Blackwater river and in bogs in the neighbourhood.

Polygonum amphibium. Ponds, occasionally.

Achillæa Ptarmica. Banks of a pond near the church.

Myosotis cæspitosus. Common in some ponds in Monks' wood.

Galeobdolon luteum. Damp hedge-banks, not uncommon.

Orobanche elatior. Clover-fields, occasionally.

Aquilegia vulgaris. Plantations of fir near the church.

Daphne Laureola. Woods, not uncommon.

Triglochin palustre. Meadows by Blackwater river.

Potentilla argentea. Dry banks, frequent.

Pyrus torminalis. Monks' wood, occasionally.

Prunus Cerasus. Hedges and woods, not unfrequent.

——— *insititia*. Hedges, but rarely.

Carduus Marianus. Gravelly hedge between Blackwater and Stisted.

Senecio viscosus. Gravelly banks on the common.

Chlora perfoliata. Sides of fields, occasionally.

Chenopodium polyspermum. Waste ground not uncommon.

Castanea vulgaris. Woods, not uncommon

JABEZ M. GIBSON.

Pattiswick Hall, near Coggeshall,
Essex, October 24, 1843.

ART. CXC.—*Notice of 'The Naturalists' Pocket Almanack for* 1844.' London: John Van Voorst, Paternoster Row.

FOR the information of such of our readers as may not have formed an acquaintance with this useful little almanack during the first year of its appearance, we may briefly state that in addition to the calendar, length of day, and the rising and setting of the sun and moon, the days and hours of meeting of the various scientific societies of the metropolis are regularly specified, together with short notices of the arrival and departure of birds, the flowering of plants, the appearance of insects, and other interesting remarks relating to Natural History. But the principal feature in the present year's almanack is the best and most compendious descriptive list of the British ferns and their allies that we have yet met with. In the nomenclature of this list we observe several departures from that adopted by Mr. Babington in his 'Manual of British Botany.' For instance, in the Equisetums the nomenclature and arrangement proposed by Mr. Newman in our own pages are followed. In the ferns we find some striking novelties. Among these is a full description of the involucre of Pteris: we quote the entire character of that genus.

"PTERIS, *Linneus.* — Mid-vein distinct, lateral veins anastomosing at margin forming a marginal vein. Involucre attached to inner side of marginal vein, linear, its margin split into capillary segments; capsules attached in a linear series to marginal vein, exterior to involucre; epidermis prolonged bleached reflexed split into capillary segments and covering capsules in the manner of an involucre."—p. 11.

The second point to be noticed appears at first sight to be a daring innovation; on reflection, however, we feel inclined to admit it as being a more natural arrangement than the old one. We allude to the removal from the genus Polypodium of the species Dryopteris, calcareum and Phegopteris, thus leaving Polypodium vulgare as the only British representative of its genus. The three rejected species, together with Oreopteris and Thelypteris, form in the list the first division of Bory's genus, Lastræa, characterized by having the "Clusters of capsules on all branches of lateral veins," not on the anterior branch only, as in Polypodium and Lastræa proper. The next thing we shall notice is that the three plants Lastræa spinosa, dilatata and recurva are raised to the rank of species, and as such now described for the first time in an English work. We quote the descriptions.

"9. *L. spinosa* (Roth). *Lastræa dilatata* linear type Newm 61 fig. Bab 386. Rhizoma very stout, slowly but extensively creeping; stem as long as frond, clothed sparingly except at the base with *broad rounded pale brown diaphanous scales;* frond nearly erect, elongate linear pinnate, pinnæ rather distant (1—8 pairs of equal length, *the lower pair neither longer nor shorter than the rest*) winged pinnate; pinnules at the base of pinnæ separated from the midrib by a deep notch, toward the apex of pinnæ decurrent, all lobed, the lobes serrated and spined; divisions at apex of frond narrow, their terminations acute, all divisions of frond *flat;* involucre nearly circular, its margins *waved not torn nor furnished with teeth or stalked glands;* clusters of capsules circular crowded, sometimes confluent, confined to the upper portion of the frond. This common fern was included by Linneus under his *Polypodium cristatum*, and by Muller in the 'Flora Danica' under his *P. spinulosum*, but the first intelligible description as a separate species is in Roth's 'Flora Germanica;' it is not the *Aspidium spinulosum* of Willdenow, Schkuhr, Decandolle, Smith, Hooker or Mackay, all of which are probably referrible to the next species. Common, marshes and woods; in moist woods it is more luxuriant, only semierect, and has a somewhat different aspect. Mature in September.

"10. *L. dilatata* (Hoffmann). Newm 58 fig. Bab 386, *Aspidium spinulosum, dilatatum* and *dumetorum* Sm iv 279, *Aspid. spinulosum* Hook 440, Mack 340. Rhizoma tufted; stem very stout, nearly as long as frond, densely clothed with *long pointed scales which are dark brown along the middle but pale at the edges;* frond glandular very large deep green drooping ovate-lanceolate pinnate, *lowest pair of pinnæ shorter than 2nd 3rd 4th or 5th*, pinnæ pinnate; pinnules pinnate or pinnatifid, ultimate divisions serrated spined, all divisions of frond *convex;* involucre nearly circular *fringed with stalked glands;* clusters of capsules circular distinct covering every part of frond: mature in September. Common everywhere.

"11. *L. recurva* (Bree). *L. dilatata* concave type, Newm 61. Rhizoma tufted; stem as long as frond *woody* clothed with *long narrow laciniate scales;* frond *triangular* drooping elegant pale green pinnate, lower pair of pinnæ *longest stalked*, all pinnate; pinnules pinnate or pinnatifid, all divisions of frond *concave;* involucre nearly circular *jagged* at its margin *without stalked glands;* clusters of capsules round crowded, covering every part of frond: mature in September. Abundant in Ireland and Cornwall; occurs in Cumberland, Devonshire, Sussex, &c."—p. 23.

In the genus Athyrium, the convex form of A. Filix-femina appears as a species under the name of A. rhæticum of Roth, and, with a mark of doubt, as the Polypodium rhæticum of Linnæus; a new species of Athyrium—the A. molle of Hoffmann—is also introduced, of which the following is the description.

"† 3. *A. molle* (Hoffmann). Stalk still shorter [than in rhæticum], its scales broad and shorter; frond semi-erect bright green ovate-lanceolate pinnate, pinnæ pinnate, their midrib winged, lower pair very distant short deltoid deflexed; pinnules *flat united by wing of midrib* lobed, lobes 2—3 toothed; clusters of capsules distinct 5—7 pairs: mature in September. Common in damp places."—p. 26.

The new British Cystopteris, the C. montana of Link and Presl, has already been described and figured in our pages, (Phytol. 671).

The above are the principal points of interest which have struck us in going through this useful list; if naturalists approve of the plan, it is to be followed in subsequent years by similar lists of British quadrupeds, butterflies, Orchideæ, &c.

Art. CXCI.—*Supplement to the List of Saffron-Walden Plants,* (*Phytol.* 408). By G. S. Gibson, Esq.

**Thalictrum flavum.* At Sawston.

Ranunculus parviflorus. Road-side at Sampford.

Corydalis lutea. Old walls, Walden, naturalized.

Alyssum calycinum. One plant found in a field between Linton and Hildersham.

Linum perenne. Chalky banks by the road between Chesterford and Bourne bridge.

Geranium pyrenaicum. Waste ground, Walden.

——— *columbinum.* Clover-field near Thaxted.

**Erodium moschatum.* Once found at Walden.

Hypericum humifusum. Thriplow heath.

Ononis antiquorum. Road-sides, frequent.

Medicago denticulata. In a clover-field at Walden, probably introduced.

Trifolium arvense. Near Newport, not common.

Lotus tenuis. Little Walden park &c.

Astragalus hypoglottis. Thriplow heath and near Babraham.

Spiræa salicifolia. Road-side at New Sampford, probably the outcast of a garden.

Ceratophyllum demersum and Myriophyllum verticillatum. Ditches at Sawston.

Apium graveolens & Smyrnium Olusatrum. Marshy meadows near Sawston.

Caucalis daucoides. Corn-fields near Chrishall grange.

Œnanthe pimpinelloides. Meadows at Sawston, in fresh-water marshes.

Epilobium palustre. Ditches at Wimbish and Sawston.

Ribes nigrum. Banks of a rivulet at Wenden, some distance from houses.

Lonicera Caprifolium. Thickets at Audley End, probably planted.

Galium uliginosum. Moist meadows at Chesterford.

Crepis setosa. This plant, hitherto unobserved in Britain, was found sparingly in a clover-field near Wimbish, and had probably been introduced with the clover-seed.

Apargia hirta. Meadows at Sawston.

**Leontodon palustre.* Sawston fen.

Hieracium sylvaticum. How wood, Littlebury.

Centaurea solstitialis. A few plants were found this year in two clover-fields at Walden, introduced with the clover, which was grown from foreign seed

Senecio erucæfolius. Road-sides, not uncommon.

**Pulmonaria officinalis.* Near a wood at Horseheath.

Myosotis sylvatica. Woods near Walden, frequent.

——— *collina.* Dry ground near Newport.

**Pinguicula vulgaris.* At Sawston.

**Utricularia vulgaris.* Thriplow heath.

Veronica polita? Corn-fields, Walden.

*——— *scutellata.* At Sawston.

Mentha arvensis. Corn-fields &c. not uncommon.

Melissa officinalis. Margin of a rivulet at Clavering.

Galeopsis versicolor. One specimen found at Sawston.

**Lamium maculatum.* Audley End.

**Lysimachia vulgaris.* Near Sawston.

Samolus Valerandi. Meadows at Sawston.

Rumex viridis. Shady places, frequent.

Salix acuminata. Road-side at Hadstock.

—— *aurita.* Audley End &c.

—— *decipiens?* Near Walden.

—— *ferruginea, rugosa, rubra, Smithiana, undulata.* Audley End, according to Leefe's 'British Willows,' fasc. I.

Alisma ranunculoides. Ditches at Sawston

**Sparganium simplex.* Ditto at Chesterford

Lemna gibba and Potamogeton pusillus. At Sawston.

Lilium Martagon. In an old coppice hedge and in a wood at Sampford, where it has grown for at least thirty years, and probably a much longer time.

**Muscari racemosum.* Near Sawston.

Triglochin palustre. Wendon & Sawston.

**Epipactis palustris.* At Sawston.

Schœnus nigricans. Abundant at Sawston.

Scirpus sylvaticus. In a rivulet at New Sampford.

**Cladium Mariscus and *Eriophorum pubescens.* At Sawston.

Carex muricata. Near Chesterford.

—— *Œderi and ovalis.* Meadows at Sawston.

Lolium multiflorum. Fields occasionally.

Equisetum limosum. At Linton.

Asplenium Adiantum-nigrum. Old trees.

Those plants marked with an asterisk, I have not found growing, but have seen specimens which are stated to have been gathered in the localities specified.

Whether the Œnanthe found in fresh-water marshes will prove a new species distinct from pimpinelloides, is at present uncertain; but the specific differences between it and the salt-marsh plant appear slight.

Chenopodium rubrum and Salix Hoffmanniana, which are marked in the former list with a note of interrogation (Phytol. 413), have since been seen; the first at Sawston, the other at Audley End.

Tragopogon pratensis (Id. 411), should have been entered as T. minor, and Habenaria bifolia (Id. 414) as H. chlorantha. Cuscuta europæa has not been found here; the specimen on the authority of which it was inserted, was gathered some years ago, and proves on examination to be C. Trifolii.

I also feel some doubt as to whether Luzula Forsteri has been found here; and of a permanent locality for Mentha viridis.

G. S. Gibson.

Saffron Walden, November, 1843.

Art. CXCII.—*Varieties.*

415. *Correction of an error in the description of Equisetum Telmateia.* In my description of this species (Phytol. 723) I have made this observation:—" Mr. Watson, in one of the passages above referred to, states that horses graze on it (Phytol. 588)." By a reference to this passage it will be seen that Mr. Watson remarks that "it is a notion among the rustics of Cheshire that horses get bogged by their endeavours to graze on this plant," &c. I beg to offer my thanks to Mr. Watson, for calling my attention to this inaccuracy.—*Edward Newman; Hanover St., Peckham, November,* 1843.

416. *What is the Polypodium fragrans of Linneus?* This fern is absent from nearly all our descriptive lists. Wahlenberg, Roth, De-

candolle, Sadler, Smith, Hooker, Dietrich, Babington, and many others, appear to take no notice of it. It seems *highly* probably that the fern did exist formerly, and *scarcely* probable that it has become extinct: it will be recollected also that our two *fragrant* ferns, Lastræa rigida and L. Oreopteris, are absent from those works in which *P. fragrans* is described, so that it *may possibly* be one of these. I have endeavoured to collect all the evidence within my reach, as to the claims of rigida or Oreopteris to the title of fragrans; and before immolating a well-established name on the altar of priority, I shall feel extremely obliged to any botanist who can give me information as to *the present existence* of the Linnean Polypodium fragrans. *Id.*

417. *On assisting Nature in the dissemination of Plants.* Although I concur in Dr. Bromfield's observation that this practice is "highly reprehensible" (Phytol. 806), and admit such to be *the rule*, yet I cannot help pleading somewhat earnestly for what I consider *the exception.* The *rule* appears to me to bear on all those cases in which the act is committed for purposes of deception, and the *exception* on those cases in which exotic plants are avowedly introduced to beautify our woods and wilds. I have, I believe, succeeded in establishing three beautiful North-American ferns — Sitolobium pubescens, Onoclea sensibilis and Cystopteris bulbifera, and I think he were a slender botanist who fell into the error of supposing them natives of Britain.—*Id. December*, 1843.

418. *Note on Oxalis corniculata.* As Devonshire is, I believe, considered the strong hold for Oxalis corniculata, as an English plant, the following notice of it may not be quite devoid of interest to your readers. Though I have never found it truly wild, that is, in such places as its more elegant congener loves to inhabit, yet in several situations where ground has been recently ploughed or dug up, it has made its appearance. Here (Lympstone) it has sprung up spontaneously in a garden where it was unknown before the spade brought the seeds to the surface; this also happened in a recently ploughed field adjoining: and in the rich earth procured for a melon-bed, it grows most luxuriantly, in fact it is a troublesome weed; this I have also known to occur in a garden at Teignmouth. That the seeds of plants may lie dormant for a long time, and yet, when some accidental circumstance favours their growth, may burst their covering and appear where we should least expect them, is well known, and has been before proved in the pages of 'The Phytologist;' but the fact of these seeds being there to germinate, proves one of these two things,—that the plant in question was either formerly much cultivated in South Devon, and so naturalized, or that it is one of the indigenous products

of our soil; which of the two deductions is the right one, I do not feel myself competent to determine, though as regards the first, I can say that if it was formerly a common plant in gardens, it is not so now by any means, and I have not once seen it in a state of cultivation in the neighbourhood.—*Robert C. R. Jordan; Lympstone, Nov.* 15, 1843.

419. *Note on Mr. Gibson's Hieracium hypochœroides.* My former remarks upon this plant (Phytol. 801) are fully confirmed by the authentic specimen, for the inspection of which I am indebted to the editor of 'The Phytologist.' It is an identical species with the specimens of Mr. Ward, Mr. Tatham, Mr. Gardiner, and others mentioned in my former communication. In his parcels of the present year, Mr. Gardiner labels the plant "Hieracium murorum, *L.*, β. pulmonarium, *Sm.*" I fully concur with Mr. Gardiner in looking upon it as a form of H. murorum, though not the H. pulmonarium of Smith. The H. maculatum of 'English Botany' scarcely differs, except by its more numerous flowers and stem-leaves, and by the stronger teeth of the leaves. These characters are variable in the other forms of H. murorum, in their wild states, and are commonly increased by cultivation. In regarding H. maculatum as a luxuriant state of H. murorum, rather than joining it with H. sylvaticum, I am probably almost alone.—*Hewett C. Watson; Thames Ditton, November* 20, 1843.

420. *Mr. Bowman on the specific identity of Hieracium murorum and H. maculatum.* Believing this union to be correct, although in opposition to the views of Hooker and Babington, I crave a corner in 'The Phytologist' for the following unpublished note, furnished to me by the late Mr. J. E. Bowman. It was only this day that I met with the note, in a list of localities sent for the 'New Botanist's Guide,' about the year 1834; but being written under the head of "H. murorum" (a species too common for introduction into the Guide), it had been passed over, and quite forgotten if ever read. "After long and repeated observations on numerous Welsh specimens from various localities, I am satisfied, notwithstanding what is said in 'English Flora,' that this species and H. maculatum cannot be separated. Neither the shape of their leaves, nor their spots, nor the solitary leaf on the stem, can be relied on. I have specimens that precisely agree with Smith's H. murorum, only the leaves are spotted; and others that correspond with his H. maculatum, except that the stem is solid and has only a single leaf. * * I have some specimens [of a Hieracium] from the Breidden, which it is next to impossible to identify, and I have sometimes thought they may be a new species." So entirely had this note escaped proper attention at the time, that I took

the locality of Breidden Hill, from the 'English Flora,' and printed it for "H. sylvaticum, maculatum."—*Id. November* 27.

421. *Note on Carex paradoxa.* Having observed in your last number an allusion to the existence of Carex paradoxa near York (Phytol. 779), I am induced to send you a short account of its discovery. It was first found by myself in Heslington fields, in April, 1841, and a few weeks afterwards in Ascham bogs, an immense marsh about three miles S. of York; in both which localities it grows in the greatest abundance. At that time I referred it, though doubtfully, to C. teretiuscula; but from this I observed that it differed in its mode of growth (forming compact tufts or stools like those of C. paniculata), in its larger panicle, more numerously striated fruit, &c., and I thought it not improbable that it might prove to be the C. paradoxa alluded to in Hooker's Flora under C. paniculata. I possessed, however, neither specimen nor description of that species with which to compare my plant, and my attention has been since then so completely engrossed by other departments of Botany, that I neglected to take the opinion of any of my friends capable of deciding on such a subject. Mr. Borrer, whom I had the pleasure of seeing in York in the early part of September last, first informed me that my plant was identical with the Irish Carex paradoxa; and more lately I have received similar testimony from Mr. Wilson, who was, I believe, the first to make out Mr. D. Moore's specimens. In Heslington fields, Carex paradoxa is accompanied by C. cæspitosa (*true*), C. acuta, C. fulva, C. dioica &c. In some parts of Ascham bogs the vegetation is almost entirely composed of C. paradoxa and cæspitosa, but in the intervals between the tufts it is not uncommon to find a few scattered plants of C. filiformis, a plant which grows abundantly in bogs on some of our moors in the Vale of York. Carex paniculata grows also in Ascham bogs, and attains an enormous size, but I do not recollect having seen it growing side by side with C. paradoxa. I believe the latter matures its fruit two or three weeks earlier than the former. We have not the true C. teretiuscula nearer than Terrington Carr, which is fifteen miles N. of York.—*Richard Spruce ; York, November* 21, 1843.

422. *Note on Carex axillaris.* This plant does *not* grow in Heslington fields, as has been supposed (Phytol. 199), but it occurs in considerable quantity at the margins of brick-ponds on Hob-moor, near this city, where my attention was first directed to it by my friend Mr. O. A. Moore, in June, 1842. The Carices growing along with it are C. remota, vulpina, Pseudo-Cyperus, &c.; of these, C. vulpina is by far the most like C. axillaris in habit, but the *concave surfaces,* and

consequently *very acute angles* of the stem, will always suffice to distinguish the former, without any other characters. I am not at all surprised that C. axillaris and divulsa have sometimes been confounded, which might very easily happen if the botanist were guided solely by the very meager descriptions in Hooker's Flora; and the two species really differ very little in external aspect. Mr. Borrer tells me that *our* C. axillaris, *at least*, is not C. boenninghausiana.—*Id.*

423. *Note on Veronica triphyllos.* This interesting little plant was discovered in the spring of 1842, by Mr. Weatherill of this city, near the village of Nether Poppleton, and it is perhaps generally distributed over the sandy district which extends to a considerable distance westward of York, as I have observed it during the past spring and summer in three or four stations some miles distant from each other. Near Poppleton it grew abundantly in a stubble-field, as well as in an adjoining sandy lane amongst Allium oleraceum; but the place where I have seen it in the greatest luxuriance, is in the lane leading from Acombe to Ascham, where a quantity of brambles and briers had been cut away. Alyssum calycinum has also been discovered by the same gentleman, growing with the Veronica, but in very small quantity.—*Id.*

424. *Veronica Buxbaumii* has been found in several places near York during the last three years, but only by two or three plants at a time, and as I have not heard of its being observed in the same station for two consecutive seasons, I conclude that it is an introduced plant.—*Id.*

425. *Note on the Manchester Carex.* I am led to believe from the following circumstances, that the statement of Mr. Gibson, wherein he regrets that the locality of his Carex pseudo-paradoxa is a secret (Phytol. 778), has reference to a conversation between Mr. Gibson and myself; may I therefore be allowed, through the medium of your valuable journal, to vindicate myself from such an imputation? Mr. Gibson called on me to enquire if I would go with him to gather the plant; but at the time I was so engaged in business that it was not in my power to do so. He then asked of me the locality, and if I could give him particular directions? Now, as he was a stranger to that part of the country, and the plant by no means easily to be found, I said I feared I could not, and told him the reason; but said I could give him a number of specimens, as I had gathered it largely. After some conversation on the subject, he said if *I had* given him the locality, so that he could have found the plant, it was his intention to have cut it all down, if possible. On this ground I felt myself justified in withholding all further information; for although no locality

ought to be kept secret, when the knowledge of it might prove of advantage to science, or contribute to the pleasure of a fellow-student, yet after such a threat, was I not justified in retaining the information? —*George Crozier; 111, Shudehill, Manchester, November 23, 1843.*

426. *Note on the Botany of France.* I have been highly pleased with Mr. Woods' paper on the Botany of France (Phytol. 785). There is no place to which an English botanist is so likely to go, and even to fire-side travellers it must be pleasant to compare the Flora of an opposite shore with our own. I will just mention, that on Mont St. Katherine near Rouen, I found, two years ago, plenty of Bupleurum falcatum. The two plants that most attracted my eye between Havre and Paris were Mercurialis annua and Eryngium campestre. — *Geo. Sparkes; Bromley, in Kent, December 5, 1843.*

427. *Note on Potass and Soda produced by the ashes of Plants.* It has been for a long time the general opinion, that the ashes of inland plants produce potass, of maritime plants soda. Whether maritime plants removed inland would continue to secrete soda, is an interesting enquiry, and is a point on which Sir James Smith and Prof. Liebig, although they do not absolutely contradict each other, can scarcely be said to agree. While things are in this uncertain condition, I have been much astonished at perusing Hartwig's analysis of the ashes of inland plants, and observing the large proportion of soda which he professes to have found in them; for example: —

	Carb Potass.		Carb. Soda.
In Beech wood,	11·72	....	12·37
Hanoverian tobacco,	0	....	1·61
Bean-straw,	13·32	....	16·06
Pea-straw,	4·16	....	8·27

It would be well if some English chemist were to repeat these experiments.—*Id.*

428. *Note on Agarics.* I have eaten, this season, Agaricus personatus and nebularis. The former, which is occasionally eaten, is not very pleasant; but the latter I can highly recommend. I have scarcely found a single specimen of Agaricus deliciosus this season. Those of your readers who have paid no attention to Fungi, may be interested in knowing that by taking an Agaric not quite full grown, cutting the stalk off, and placing the top on a sheet of white paper, the gills downward, they will obtain a copious supply of sporules. As in most Agarics these are white, coloured paper is the most appropriate. The existence of ammonia in ketchup may be shown by adding quicklime to it. The ammonia may be recognized by its smell, or by holding

over it a piece of litmus paper which has been partially reddened by an acid.—*Id.*

429. *Note on Aspidium spinulosum.* I feel obliged to your correspondent Mr. Forster (Phytol. 814), for correcting an error which I inadvertently fell into (Id. 774) in stating that "the application of the specific name of *spinulosum* to a British fern (first adopted, I believe, by Smith and Sowerby in 'English Botany') originated in error,"—a blunder this, on my part, the more strange, as it is distinctly stated in the letter-press of 'English Botany,' that "Dr. Withering first made it known as a British plant." In my own defence, however, I must observe, that it is not recorded in Withering's second edition, printed in 1792, to which alone I had access. My principal object in the remarks I made, was to warn botanists not to take up their notions about Aspidium spinulosum from the figure and account in 'English Botany,' where an error certainly is committed, Mr. Mackay having avowed to me that the plant there represented turned out to be only a young or starved specimen of A. dilatatum. I am quite aware that Mr. Dickson "nowhere published A. spinulosum;" but I know that he was well acquainted with the fern, as well as with what I have called recurvum, and that he maintained them to be distinct species, and each of them distinct from dilatatum. For distinction's sake I have been in the habit of calling this much-disputed species "*Dickson's* spinulosum," because at the period when I conversed with him on the subject, he was the only botanist with whom I was personally acquainted, who appeared to me to have an accurate knowledge of the plant in question.—*W. T. Bree; Allesley Rectory, December* 8, 1843.

430. *New locality for Saxifraga crenata,* Bab. C. C. Babington, in his 'Manual of British Botany,' considers this plant a doubtful native at Hezleden Gill; but when he was here this autumn, and visited the place, he was convinced of its being indigenous. C. C. Babington and your readers in general will be glad to learn that since then the Rev. John Howson has found the same plant at Lynn Gill, but not in such profusion as at Hezleden Gill. Lynn Gill is about four and a half miles from Hezleden Gill, and about thirteen miles from Settle; the plant is found on the north-east side of the valley, about twenty yards above the waterfall; the high range of hills, part of the Penine chain which passes through Yorkshire, separates the two localities.—*John Tatham, jun.; Settle, 12th Mo.* (*December*) 7, 1843.

431. *Note on Hieracium prenanthoides.* C. C. Babington, when at Settle, found one plant of Hieracium prenanthoides, since then I have seen six others; they are all on the east bank of the Ribble near the

village of Stainforth: Hieracium Lawsoni, *Smith*, is abundant at the same place.—*Id.*

432. *Observations on the dissemination of Seeds of Plants.* As a question has been raised by Dr. Bromfield, whether it be right to "assist nature in the dissemination of plants" (Phytol. 806), and this being a question on which it seems desirable that botanists should make up their minds, I think it may not be amiss to discuss it at greater length than has been done by that gentleman, especially as he has taken the negative side. The main reason given by Dr. Bromfield for entertaining this opinion, is the confusion which would be created in Vegetable Geography, if botanists were to take upon themselves to scatter seeds. It is true that another reason is glanced at, but in reference to this perhaps I may be allowed to say, that I cannot see any greater moral iniquity in sowing seeds to gratify the eye, than in sowing them to gratify the palate. With respect to Vegetable Geography, the most interesting part is that which treats of the affinity of certain plants for certain soils; and it appears to me that this is not only *not* endangered by the course which Dr. Bromfield denounces, but that it is assisted rather than otherwise. Thus, the seeds of a plant found usually on a gravelly or sandy soil, are perhaps sown by the botanist on a chalky soil, where, if they germinate and flourish, an error may be corrected by its being shown that such a plant is not so peculiar to a sandy or gravelly soil, as that it will not flourish upon a chalky one; on the other hand, if the seeds perish, or if the plants produced from them do not flourish, there is at least strong presumptive evidence that the chalky soil is not adapted for their growth. In either case, it is not likely that a botanist will be led into an error in this respect. As to the geographical distribution of plants, a study which, when separated from the other branch of the subject, is a matter of much less interest, it can never, I think, be endangered by the occasional assistance afforded by botanists in the production of plants, especially if they make known (as they should do) the fact of their having given such assistance; but even if this information were withheld, the fact of such assistance having been rendered would in most cases be apparent, especially if the plants disseminated are known to be otherwise peculiar to other countries. There is another objection stated by Dr. Bromfield, namely, that the working botanist is misled and disappointed, in finding that he has in reality only discovered an artificial station, when he had flattered himself he had met with a new natural one. It is true, that in such a case, the botanist will in all probability undergo some disappointment, and that this disappoint-

ment will most likely exceed the pleasure of finding the plant, and seeing it growing there, before and after he knows this. To prevent such disappointment as much as possible, care should be taken to make known the fact of the station's being an artificial one. Against the disappointment of the botanists of the day, however, is there not to be placed a large amount of pleasure to be derived by future botanists, from the possession of the naturalized plant, when the artificial station shall have become a natural one? Examples may easily be adduced of the pleasure derived by ourselves from such a source. Impatiens fulva, for instance, as is well known, grows in the greatest luxuriance along the banks of the river Wey, from considerably above Guildford down to the Thames at Weybridge, and even as low as Barnes (Phytol. 814). Now it is not probable that Vegetable Geography will ever be endangered by this fact, the plant being known to be of American origin: on the other hand, what a pleasure is it to the botanist to see this beautiful plant luxuriating in this country, and to possess in his herbarium specimens of it gathered with his own hand! There may even be instances in which error as to the distribution of a plant might arise by not assisting Nature. For example: the only spot in Britain where Cyperus fuscus has been found, is a little marshy meadow surrounded by houses, near Walham-green, Middlesex. There can be no manner of doubt that at some time hence, perhaps even in one year, this meadow will be drained, and either built upon or ploughed up; and then, if no one has taken the precaution of removing some of the plants of Cyperus elsewhere, there will be a species lost to Britain. Are we to look on quietly aud see our species become extinct before our very eyes, and not move a finger to save them? In such cases at least, may not every objection be made against *not* meddling, which is raised by Dr. Bromfield against the doing so? Indeed it is only just to future botanists to take care that we do not deprive them of pleasure in gratifying ourselves. It is, of course, not desirable that botanists should make a practice of scattering the seeds of any but the rarer plants; but I think we should never run the risk of allowing any species to become extinct. Neither do I think it would be advisable to naturalise many foreign plants: it is more interesting for each country to have its own species; and as far as the geographical distribution of plants is concerned, it might become difficult to register them, and to remember that such species were only naturalized, if this were done to any great extent. I can however see nothing to blame in a botanist's sowing (as has been done by Dr. Bromfield in the case of Urtica Dodartii) the seeds of a plant which is found in but two or three places in a country, because there is no fear, even if this should ever be rendered a common plant, that a sufficient number of others will not remain rare, especially since it is likely that as the study of Botany extends, there will be a greater demand for rare plants. On the contrary, I think we have every reason to thank a botanist for his kindness in propagating a rare plant, not so much for the pleasure we ourselves are to derive from it, as for the pleasure it will in all probability afford to the botanists who are to succeed us. — *G. G. Mill; Kensington, December* 9, 1843.

Erratum. — Phytol. 813, line 9 from bottom, *for* "Lateral" *read* "Latent."

Art. CXCIII. — *Proceedings of Societies.*

MICROSCOPICAL SOCIETY OF LONDON.

November 15, 1843.—J. S. Bowerbank, Esq., F.R.S. &c. in the chair.

Mr. A. White read a paper describing the application of a lever movement to the stage of a microscope. It consists of a lever, to the shorter arm of which a ball is firmly screwed, moving in a socket formed by the upper plate of the stage, and a cup, which is a brass plate secured by two screws to that plate. This lever passes through a perforated ball, moving in a socket formed by an arm attached to an immoveable part of the microscope, and a cup formed and secured upon the arm, as in the former instance. This lever is about five inches long, having the longer arm equal to three and the shorter to one. This proportion however varies according to position, and hence the necessity of a perforation in the second ball to allow for it. This construction affords great facility of motion in every direction, and the range in the instrument exhibited was three quarters of an inch.

Mr. Jackson read a paper describing an improvement in the mode of applying a divided glass micrometer to the measurement of objects under examination, described by him in a former paper read September 3, 1841. The micrometer is mounted in a thin brass frame, which slides easily (under a spring) through slits in the opposite sides of the eye-piece, which slits, when not in use, are closed by a quarter revolution of an internal tube having similar slits. Its divisions are $\frac{1}{10}$ of an inch apart, with one of the spaces divided into five by finer lines, which, as they may be readily brought by the sliding of the micrometer into contact with the magnified edge of the object to be examined, afford great facility of measurement. Mr. Jackson concluded with some observations relative to the mode of using this instrument, and of finding the value of its divisions under the various circumstances in which it may be employed.—*J. W.*